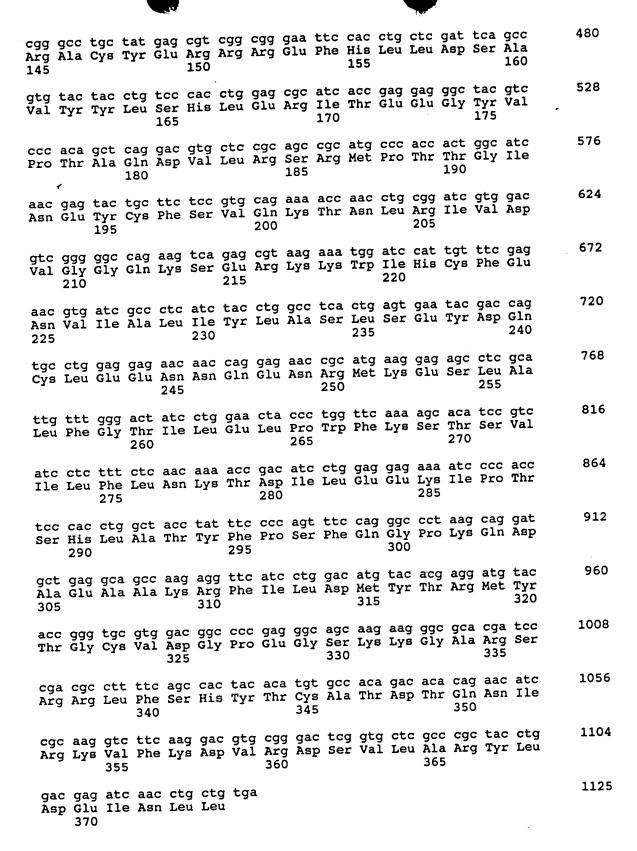
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50 11e His Gly Ala Gly Tyr Ser Glu Glu Arg Lys Gly Phe Arg Pro 65 65 65 66 67 67 68 67 68 68 68 68 61 61 62 65 65 61 62 65 65 61 62 65 65 62 63 64 65 65 65 65 65 65 66 65 66 66 66 66 66	
Leu Val Tyr Gln Asn Ile Phe Val Ser Met Arg Ala Met Ile Glu Ala 95 Met Glu Arg Leu Gln Ile Pro Phe Ser Arg Pro Glu Ser Lys His His 100 Ala Ser Leu Val Met Ser Gln Asp Pro Tyr Lys Val Thr Thr Phe Glu 125 Lys Arg Tyr Ala Ala Ala Met Gln Trp Leu Trp Arg Asp Ala Gly Ile 130 Arg Ala Cys Tyr Glu Arg Arg Arg Glu Phe His Leu Leu Asp Ser Ala 155 Pro Thr Ala Gln Asp Val Leu Arg Ser Arg Met Pro Thr Thr Gly Ile 180 Asn Glu Tyr Cys Phe Ser Val Gln Lys Thr Asn Leu Arg Ile Val Asp 205 Val Gly Gly Gln Lys Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu 215 Asn Val Ile Ala Leu Ile Tyr Leu Ala Ser Leu Ser Glu Tyr Asp Gln 225 Cys Leu Glu Glu Asn Asn Gln Glu Asn Arg Met Lys Glu Ser Leu Ala 225 Leu Phe Gly Thr Ile Leu Glu Leu Pro Trp Phe Lys Ser Thr Ser Val 205 Ser His Leu Ala Thr Tyr Phe Pro Ser Phe Gln Gly Pro Lys Gln Asp 295 Ala Glu Ala Ala Lys Arg Phe Ile Leu Asp Met Tyr Thr Arg Met Tyr 330 Thr Gly Cys Val Asp Gly Pro Glu Gly Ser Lys Lys Gln Ala Arg Ser 335 Arg Arg Leu Phe Ser His Tyr Thr Cys Ala Thr Asp Thr Gln Asn Ile 340 Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Ala Arg 350 Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Ala Arg Tyr Leu Ala Arg Arg Tyr Leu Arg Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu Arg Arg Lys Val Phe Lys Asp Val Arg Asp Ser Val Leu Ala Arg Tyr Leu	
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315

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SEQUENCE ID LISTING

Nucleotide and Amino Acid Sequences of $G\alpha 15$ (SEQ ID NO: 2 and SEQ ID NO: 4, respectively)

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AAG	ACT	GCC	GCC	AGA	ATC	GAC	CAG	GAG	yr c	ĄAC	AGG	ATT	TTG	TTG	GAA	CAG	AAA
							} '	¥/		-) -							
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	~~~		<i>a</i> a.														
		AAG															
		Lys															
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		441			450			459			468			477			486
CGT	GCA	TGC															
Arg	Ala	Cys	Tyr	Glu	Arg	Arg	Arg	Glu	Phe	His	Leu	Leu	Asp	Ser	Ala	Val	Tyr
		:															
		495			504			513			522			531			540
TAC	CTG	TCA	CAC	CTG	GAG	CGC	ATA	TCA	GAG	GAC	AGC	TAC	ATC	CCC	ACT	GCG	CAA
Tyr	Leu	Ser	His	Leu	Glu	Arg	Ile	Ser	Glu	Asp	Ser	Tyr	Ile	Pro	Thr	Ala	Gln
													ar.a				
GAC		CTG															TCC
7.50																	Ser
Asp	Val	пец	ALG	361	ALG	ricc	110	1111	1111	Oly	110	ADII	Ozu	-7-	Cyb		501
		603			612			621			630			639			648
GTG	AAG																CGT
Val	Lys	Lys	Thr	Lys	Leu	Arg	Ile	Val	Asp	Val	Gly	Gly	Gln	Arg	Ser	Glu	Arg

		657			666			675			684			693			702
AGG	AAA														CTG	GCC	TCC
Arq	Lvs	Trp	Ile	His	Cys	Phe	Glu	Asn	Val	Ile	Ala	Leu	Ile	Tyr	Leu	Ala	Ser
- · · · · ·	•	•			-												
		711			720			729			738			747			756
CTG	AGC	GAG													CGC		
Leu	Ser	Glu	Tyr	Asp	Gln	Cys	Leu	Glu	Glu	Asn	Asp	Gln	Glu	Asn	Arg	Met	Glu
			-														
		765			774			783			792			801			810
GAG	AGT	CTC	GCT	CTG	TTC	AGC	ACG	ATC	CTA	GAG	CTG	CCC	TGG	TTC	AAG	AGC	ACC
Glu	Ser	Leu	Ala	Leu	Phe	Ser	Thr	Ile	Leu	Glu	Leu	Pro	Trp	Phe	Lys	Ser	Thr
		819			828			837			846			855			864
TCG	GTC	ATC	CTC	TTC	CTC	AAC	AAG	ACG	GAC	ATC	CTG	GAA	GAT	AAG	ATT	CAC	ACC
Ser	Val	Ile	Leu	Phe	Leu	Asn	Lys	Thr	Asp	Ile	Leu	Glu	Asp	Lys	Ile	His	Thr
		:															
		873			882			891			900			909			918
TCC	CAC	CTG	GCC	ACA	TAC	TTC	CCC	AGC	TTC	CAG	GGA	CCC	CGG	CGA	GAC	GCA	GAG
Ser	His	Leu	Ala	Thr	Tyr	Phe	Pro	Ser	Phe	Gln	Gly	Pro	Arg	Arg	Asp	Ala	Glu
															•		
		927			936			945			954			963			972
GCC	GCC	AAG	AGC	TTC	ATC	TTG	GAC	ATG	TAT	GCG	CGC	GTG	TAC	GCG	AGC	TGC	GCA
Ala	Ala	Lys	Ser	Phe	Ile	Leu	Asp	Met	Tyr	Ala	Arg	Val	Tyr	Ala	Ser	Cys	Ala
		981															1026
GAG	CCC	CAG	GAC													GCA	CAC
Glu	Pro	Gln	Asp	Gly	Gly	Arg	Lys	Gly	Ser	Arg	Ala	Arg	Arg	Phe	Phe	Ala	His

Nucleotide and Amino Acid Sequences of G 16

(SEQ ID NO: 1 and SEQ ID NO: 3, respectively)

		9			18			27			36			45			54
ATG	GCC	CGC	TCG	CTG	ACC	TGG	CGC	TGC	TGC	CCC	TGG	TGC	CTG	ACG	GAG	GAT	GAG
								<del>-</del>									
Met	Ala	Arg	Ser	Leu	Thr	Trp	Arg	Cys	Cys	Pro	Trp	Cys	Leu	Thr	Glu	Asp	Glu
	•	63			72			81			90			99			108
AAG	GCC	GCC	GCC	CGG	GTG	GAC	CAG	GAG	ATC	AAC	AGG	ATC	CTC	TTG	GAG	CAG	AAG .
Lys	Ala	Ala	Ala	Arg	Val	Asp	Gln	Glu	Ile	Asn	Arg	Ile	Leu	Leu	Glu	Gln	Lys
		117			126			135			144			153	•		162
AAG	CAG	GAC	CGC	GGG	GAG	CTG	AAG	CTG	CTG	CTT	TTG	GGC	CCA	GGC	GAG	AGC	GGG
Lys	Gln	Asp	Arg	Gly	Glu	Leu	Lys	Leu	Leu	Leu	Leu	Gly	Pro	Gly	Glu	Ser	Gly
		171			180			189			198			207			216
AAG	AGC	ACC	TTC	ATC	AAG	CAG	ATG	CGG	ATC	ATC	CAC	GGC	GCC	GGC	TAC	TCG	GAG
Lys	Ser	Thr	Phe	Ile	Lys	Gln	Met	Arg	Ile	Ile	His	Gly	Ala	Gly	Tyr	Ser	Glu
		225			234			243			252			261			270
		225			234			243			252			261			270

GAG	GAG	CGC	AAG	GGC	TTC	CGG	ccc	CTG	GTC	TAC	CAG	AAC	ATC	TTC	GTG	TCC	ATG
Glu	Glu	Arg	Lys	Gly	Phe	Arg	Pro	Leu	Val	Tyr	Gln	Asn	Ile	Phe	Val	Ser	Met
		279			288			297			306			315			324
CGG	GCC	ATG	ATC	GAG	GCC	ATG	GAG	CGG	CTG	CAG	ATT	CCA	TTC	AGC	AGG	CCC	GAG
Arg	Ala	Met	Ile	Glu	Ala	Met	Glu	Arg	Leu	Gln	Ile	Pro	Phe	Ser	Arg	Pro	Glu
		333			342			351			360			369			378
AGC	AAG	CAC	CAC	GCT	AGC	CTG	GTC	ATG	AGC	CAG	GAC	CCC	TAT	AAA	GTG	ACC	ACG
Ser	Lys	His	His	Ala	Ser	Leu	Val	Met	Ser	Gln	Asp	Pro	Tyr	Lys	Val	Thr	Thr
											414						
TTT	GAG	AAG	CGC	TAC	GCT	GCG	GCC	ATG	CAG	TGG	CTG	TGG	AGG	GAT	GCC	GGC	ATC
Phe	Glu	Lys	Arg	Tyr	Ala	Ala	Ala	Met	Gln	Trp	Leu	Trp	Arg	Asp	Ala	Gly	Ile
		441															
		TGC															
Arg	Ala	Cys	Tyr	Glu	Arg	Arg	Arg	GIU	Pne	HIS	ren	Leu	Asp	ser	Ala	Val	Tyr
		495			504			E12			522			E21			540
TAC	CTG	TCC	CAC	CTG		CGC	ATC										
Tyr	Leu	Ser	His	Leu	Glu	Arq	Ile	Thr	Glu	Glu	Glv	Tvr	Val	Pro	Thr	Ala	Gln
•						J					3						
		549			558			567			576			585			594
GAC	GTG	CTC	CGC	AGC	CGC	ATG	CCC	ACC	ACT	GGC	ATC	AAC	GAG	TAC	TGC	TTC	TCC
Asp	Val	Leu	Arg	Ser	Arg	Met	Pro	Thr	Thr	Gly	Ile	Asn	Glu	Tyr	Cys	Phe	Ser
		603			612			621			630			639			648
GTG	CAG	AAA	ACC	AAC	CTG	CGG	ATC	GTG	GAC	GTC	GGG	GGC	CAG	AAG	TCA	GAG	CGT

								·									
Val	Gln	Lys	Thr	Asn	Leu	Arg	Ile	· Val	Asp	Val	Gly	Gly	Gln	Lys	Ser	Glı	ı Arg
	_																702
AAG																	TCA
Tira																	
пуъ	пуъ	пр	Ile	nis	Cys	Pne	GIU	. Asn	Val	He	Ala	Leu	Ile	Tyr	Leu	Ala	Ser
		711			720			729			738			747			756
CTG	AGT		TAC													ΔͲʹϹ	756
Leu			Tyr														
																	-
GAG			GCA														
Glu	Ser	Leu	Ala	Leu	Phe	Gly	Thr	Ile	Leu	Glu	Leu	Pro	Trp	Phe	Lys	Ser	Thr
		819			828			027			046						
maa																	864
TCC	GTC	AIC	CTC	TTT	CTC	AAC	AAA	ACC	CAC	ልጥሮ	CTC	$C \setminus A \cap C$	$\alpha \lambda \alpha$	70 70 70	» ma	~~~	3.00
															ATC		
																	[:]
		 Ile		 Phe	 Leu	 Asn	 Lys	Thr	 Asp	 Ile	 Leu	 Glu	 Glu	 Lys		 Pro	[:]
Ser	val	Ile 873	 Leu	 Phe	 Leu 882	Asn	 Lys	Thr 891	 Asp	 Ile	 Leu 900	 Glu	 Glu	 Lys 909	 Ile	 Pro	 Thr 918
Ser TCC	Val	Ile 873 CTG	Leu GCT	Phe ACC	Leu 882 TAT	Asn TTC	Lys	Thr 891 AGT	Asp	Ile CAG	 Leu 900 GGC	Glu CCT	Glu AAG	Lys 909 CAG	Ile	Pro	Thr 918 GAG
Ser TCC	Val	Ile 873 CTG	Leu	Phe ACC	Leu 882 TAT	Asn TTC	Lys	Thr 891 AGT	Asp	Ile CAG	 Leu 900 GGC	Glu CCT	Glu AAG	Lys 909 CAG	Ile	Pro	Thr 918 GAG
Ser TCC	Val	Ile 873 CTG	Leu GCT	Phe ACC	Leu 882 TAT Tyr	Asn TTC	Lys  CCC Pro	Thr 891 AGT	Asp TTC	Ile CAG  Gln	Leu  900 GGC Gly	Glu CCT  Pro	Glu AAG  Lys	Lys 909 CAG	Ile GAT 	Pro	Thr 918 GAG Glu
TCC	Val CAC	11e 873 CTG  Leu	Leu GCT 	Phe ACC	Leu  882  TAT   Tyr	Asn TTC	Lys CCC  Pro	Thr 891 AGT Ser	Asp TTC Phe	Ile CAG  Gln	900 GGC  Gly	Glu CCT  Pro	Glu AAG  Lys	Lys 909 CAG Gln	Ile GAT	Pro GCT  Ala	Thr 918 GAG Glu
TCC	Val CAC	11e 873 CTG  Leu 927	Leu GCT  Ala	Phe ACC Thr	Leu  882 TAT  Tyr  936 ATC	Asn TTC Phe	Lys  CCC Pro	Thr 891 AGT Ser 945 ATG	Asp TTC Phe	CAG Gln	Pool GGC Gly  954  AGG	Glu  CCT Pro	Glu  AAG  Lys	Lys 909 CAG Gln	Ile GAT	Pro GCT  Ala	Thr 918 GAG Glu
TCC	Val CAC His	11e 873 CTG  Leu 927 AAG	Leu GCT  Ala	Phe  ACC Thr	Leu  882 TAT  Tyr  936 ATC	Asn TTC Phe CTG	Lys  CCC Pro	Thr 891 AGT Ser 945 ATG	Asp TTC Phe	CAG Gln ACG	Leu  900 GGC Gly  954 AGG	Glu  CCT Pro	Glu  AAG  Lys  TAC	Lys 909 CAG Gln 963 ACC	GAT Asp	Pro GCT Ala	918 GAG Glu 972 GTG
TCC	Val CAC His	11e 873 CTG  Leu 927 AAG	Leu GCT  Ala	Phe  ACC Thr	Leu  882 TAT  Tyr  936 ATC	Asn TTC Phe CTG	Lys  CCC Pro	Thr 891 AGT Ser 945 ATG	Asp TTC Phe	CAG Gln ACG	Leu  900 GGC Gly  954 AGG	Glu  CCT Pro	Glu  AAG  Lys  TAC	Lys 909 CAG Gln 963 ACC	GAT Asp	Pro GCT Ala	918 GAG Glu 972 GTG
TCC Ser  GCA Ala	CAC His	927 AAG Lys	Leu  GCT Ala  AGG Arg	Phe ACC Thr TTC	Leu  882 TAT Tyr  936 ATC Ile	Asn TTC Phe CTG Leu	Lys  CCC Pro  GAC Asp	Thr 891 AGT Ser 945 ATG Met	TTC Phe TAC Tyr	CAG Gln ACG Thr	900 GGC  Gly 954 AGG  Arg	Glu  CCT Pro  ATG Met	Glu  AAG  Lys  TAC  Tyr	1ys 909 CAG Gln 963 ACC Thr	GAT Asp GGG	Pro GCT Ala TGC Cys	Thr 918 GAG Glu 972 GTG Val
TCC Ser  GCA Ala	CAC His	927 AAG Lys	Leu  GCT Ala  AGG Arg	Phe ACC Thr TTC	Leu  882 TAT Tyr  936 ATC Ile	Asn TTC Phe CTG Leu	Lys  CCC Pro  GAC Asp	Thr 891 AGT Ser 945 ATG Met	TTC Phe TAC Tyr	CAG Gln ACG Thr	900 GGC  Gly 954 AGG  Arg	Glu  CCT Pro  ATG Met	Glu  AAG  Lys  TAC  Tyr	1ys 909 CAG Gln 963 ACC Thr	GAT Asp GGG	Pro GCT Ala TGC Cys	Thr 918 GAG Glu 972 GTG Val

